

APPLICANT(S): KRUGER et al.
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AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled:

1. (Currently amended) A device for measuring flow in a fluid, the device comprising:
 - a) a cavitation unit comprising a cavitation light laser source (10, 30) for generating cavitation bubbles (3) in the fluid;
 - b) a particle-measuring unit (10, 20) for detecting and measuring the movement of cavitation bubbles (3) generated by the cavitation unit.
2. (Cancelled)
3. (Currently amended) A device as claimed in claim 1, ~~characterized in that wherein~~ the particle-measuring unit (10, 20) is designed to measure particle movement with the aid of phase-Doppler anemometry (22) ~~and/or or~~ Doppler shift (21).
4. (Currently amended) A device as claimed in claim 1, ~~characterized in that wherein~~ the particle-measuring unit is designed to determine particle movement from the light emitted by the cavitation bubbles ~~particles~~ (3).
5. (Currently amended) A device as claimed in claim 1, comprising a facility for invasive intervention, the facility comprising a catheter (16) having an optical unit (10) that is disposed at the catheter tip and that can receive light selectively from a focus region (2) situated outside the catheter ~~and/or or~~ beam it light selectively into the focus region (2), and wherein in which process the radial position of the focus region (2) can be adjusted externally.

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6. (Currently amended) A facility device as claimed in claim 5, ~~characterized in that~~ wherein the optical unit (10) can be rotated is rotatable around the elongated axis of the catheter axis relative to the catheter (16).

7. (Currently amended) A facility device as claimed in claim 5, ~~characterized in that~~ wherein the catheter (16) comprises a bundle (15) of optical waveguides that connects the optical unit (10) to the beginning an end of the catheter.

8. (Currently amended) A facility device as claimed in claim 5, wherein the facility ~~characterized in that it comprises a scanning unit (20) that is designed to vary the position of the focus region (2) systematically and to analyze light picked up by the optical unit (10) from the respective focus region (2) with regard to characteristic properties of the focus region area.~~

9. (Currently amended) A facility device as claimed in claim 5, wherein the facility ~~characterized in that it comprises a spectrometer for the spectral analysis of light picked up from the focus region (2).~~

10. (Currently amended) A facility device as claimed in claim 5, wherein ~~characterized in that it comprises a the particle-measuring unit (20) that is designed to generate a modulated light field for phase-Doppler anemometry in the focus region (2) via the optical unit (10).~~

11. (Currently amended) A facility device as claimed in claim 5, wherein the facility ~~characterized in that it comprises an activation unit that is designed to inject light via the optical unit (10) into the focus region (2) in order to initiate local processes therein as a result of interaction with matter.~~

12. (Currently amended) A facility device as claimed in claim 11, ~~characterized in that~~ wherein the activation unit (20) comprises the cavitation light laser source (30) and is designed to generate cavitation bubbles (3) in the focus region (2).

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13. (Currently amended) A method of measuring flow in a fluid, wherein the method comprising:
using a cavitation light laser source to generate cavitation bubbles (3) are generated in the
fluid; and
using a particle-measuring unit to detect and measure the movement of the cavitation bubbles
(3) is observed.

14. (Currently amended) A method of determining the position of a vessel wall (1),
wherein the method comprising:
using a device as claimed to claim 5 to continuously displace a focus region in the vessel;
using a device as claimed to claim 5 to pick up light is picked up from a the focus region;(2)
that is continuously displaced in the vessel and
detecting a qualitative change in the light that is picked up is detected.